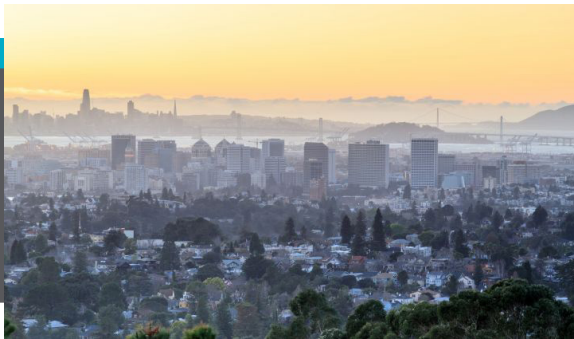


# THE VALUE OF ENERGY STORAGE

## Air Pollution and Climate Benefits



Energy storage – an industry that currently employs more than 80,000 U.S. workers – provides several benefits to the power grid that sometimes go unrecognized. This case study provides examples of storage solutions that serve as viable replacements to traditional sources of power generation and result in lower costs and reduced conventional air pollution and greenhouse gas (GHG) emissions.



<b>LOCATION</b>	<b>PROJECT SIZE</b>
Oakland, California	43.25 MW/173 MWh
<b>TARGET OPERATING DATE</b>	
January 2022	

For four decades, an aging power plant located in downtown Oakland, California has been burning jet fuel and distillate oil to generate electricity, releasing harmful conventional pollutants and GHG emissions into the surrounding neighborhoods and the region beyond. The facility is a “peaker plant,” which provides power to the electric grid during periods of high demand. Unlike most baseload fossil power plants, the plant can rapidly ramp up to meet peak energy demands, providing needed generating capacity even under stressful system conditions. East Bay Community Energy (EBCE) – a community choice aggregator (CCA) covering Oakland and Alameda County – was committed to finding a replacement that would provide clean, affordable energy to consumers and decrease the high level of airborne pollutants and carbon emissions.

Due to constraints on the local transmission infrastructure, the new project had to be in downtown Oakland. Moreover, this project had to serve the same purpose as the current plant, responding quickly to grid demand changes without regard to the time of day. EBCE determined that energy storage, with its ability to improve grid flexibility and shift electricity supply to times of peak load, would be the best solution.

In the summer of 2019, EBCE and Pacific Gas & Electric (PG&E) selected Vistra Energy and esVolta to develop two lithium-ion battery systems to enable a phased decommissioning of the current plant. Once operational, this battery system would draw electricity from the grid when demand is low and discharge power when demand increases, resulting in significantly lower GHG emissions. The battery storage system would serve as a virtual transmission solution and would be less costly to install and operate than construction of a traditional transmission line connecting more distant generation sources with downtown Oakland.

The 43.25 megawatt (MW) power output, 173 megawatt-hour (MWh) energy capacity project is anticipated to be commercially operational by January 2022. In a unique agreement, EBCE and PG&E have both signed contracts for the project – EBCE for the project’s capacity to fulfill its resource adequacy requirements and PG&E for its local area reliability service. The project is awaiting approval from the California Public Utilities Commission.

The use of storage in this project will diminish reliance on traditional sources of power generation, lower emissions of conventional and greenhouse pollutants, and reduce costs. The Oakland project demonstrates the viability of energy storage and its importance in achieving the 21st century transition to renewable power.



*The American Council on Renewable Energy (ACORE) and Wilson Sonsini Goodrich & Rosati partnered in a series of case studies to explore the growing national benefits of energy storage. ACORE is a national nonprofit organization that unites finance, policy, and technology to accelerate the transition to a renewable energy economy. Wilson Sonsini is a premier legal advisor to technology, life sciences, and other growth enterprises worldwide.*